



**Comments to the Illinois Commerce Commission Regarding Electric Vehicles
Joshua C. Milberg, on behalf of the
Environmental Defense Fund
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Thank you for providing this opportunity to comment on the Illinois initiative on plug-in electric vehicles. Environmental Defense Fund (EDF) is a leading national nonprofit organization representing more than 700,000 members across the country, including more than 30,000 in Illinois. Since 1967, Environmental Defense Fund has linked science, economics, law and innovative private-sector partnerships to create breakthrough solutions to the most serious environmental problems.

Widespread deployment of electric vehicles may be one of the key pathways to maximize the environmental benefits of the evolving smart grid. Similarly, the smart grid will be one of the key pathways to maximize the environmental benefits of the continuously expanding electric vehicle deployment. Thirty percent of greenhouse gas emissions in the seven-county Chicago region come from transportation, according to the most recent emissions inventory conducted for the Chicago Climate Action Plan (*Chicago Climate Action Plan*, page 16). Transitioning our transportation system away from gasoline and other liquid fossil fuels towards a highly efficient and responsive electrified system has the potential to dramatically reduce greenhouse gas emissions and air pollution (criteria and toxics). For this promise to become a reality, it is vital that the right policy and legislative frameworks be put in place.

EDF supports the development of policies and rules that encourage adequate and cost-effective infrastructure for electrifying the transportation sector, particularly in regions of the country where electrification results in the greatest reductions of air pollution (GHGs and criteria air pollutants) and promotes the adoption of integrated smart grid technology. EDF strongly supports the steps already taken in the Chicago region as an excellent base for future expansion of the Electric Vehicle (EV) market. EDF also commends the steps taken by the Illinois Commerce Commission (ICC) to evaluate the regulatory framework needed to ensure successful EV deployment in Illinois.

The Chicago region, and Illinois more broadly, can sustain its position as a leading EV capital given its unique generation mix, current and proposed grid infrastructure and population density. However, ensuring that the correct set of policies exists to support development and remove barriers will be paramount in achieving this goal. These policies must be flexible enough to also support the evolution of the marketplace, as EVs move from pilot implementation to a standard mobility option.

Both the State of Illinois and the City of Chicago have taken a leadership role in initiating the creation of a foundation of publicly available charging infrastructure that is now being hailed by the international community. However, EV experts recognize that the majority of charging will take place at private residences or fleet locations, either in privately-owned garages or public parking structures. Furthermore, as documented in other EV states, EV deployment may occur

in geographic pockets of residences or businesses, meaning place-based pressure on existing infrastructure. It is in these areas that numerous policy challenges remain that must be addressed at the local level as well as by the ICC.

Policy Considerations

Since rate design and metering can have a large impact on the way consumers use smart grid enabled technology (including smart charging EVs), these are perhaps the two most important aspects of EV deployment to get right. It will be critical to gather information on where customers are located, what their charging preferences are and what the best rate structure is to provide incentives to charge in an environmentally-preferable manner.

However, since utilities must plan for both improved on-board vehicle charging performance and the rollout of smarter, more responsive charging equipment, utilities must not lock in long-term rate designs that will stifle customer choice and supply-side competition.

One of the best ways to avoid unnecessarily limiting EV deployment benefits is to make sure the metering system rules allow customers to choose from the full slate of emerging charging and metering systems that are both currently and prospectively penetrating the market. EDF is encouraged by other State Commissions who, in general, have used “Customer Choice” as the main driver for EV charging policy as well as remaining committed to dynamic billing and charging arrangements that facilitate vehicle charging scenarios that are aligned with achieving maximum environmental performance.

Any policy framework must provide for the safe, efficient implementation of EV charging options, while also including incentives to ensure that electric charging is completed in a manner that reduces both deleterious emissions and unnecessary impacts on transmissions and distribution system infrastructure. These policy solutions include providing dynamic pricing options to encourage off-peak charging, implementation of distributed renewable generation close to vehicle deployment pockets and allowing for “vehicle-to-grid” (V2G) technology dissemination. Data capture is also a critical component of any EV policy framework to ensure that environmental and economic goals are being met.

In general, Illinois’ night time load profile primarily consists of low-carbon energy, fueled by a large nuclear fleet and a burgeoning commitment to large-scale wind generation. When EVs utilize this non-peak charging, the vehicles become a strong environmental and economic alternative to internal combustion engine mobility. To capture these benefits, it will be necessary to pair the deployment of EVs with new technologies and grid upgrades.

Any broad implementation of new pricing and technology options will require a robust public education strategy to inform consumers and assist them in making the optimal economic choices when operating an EV. In addition, this campaign must link the economic and environmental benefits, to continue to show the strong connection between individual actions and overall impact.

Economic Considerations

A broad EV deployment will have associated costs, specifically to the grid infrastructure. Though an intelligent use of smart grid technologies will reduce these costs, grid strengthening, both in broad and in isolated areas will be required to ensure reliability. At the same time, the environmental benefits from reducing emissions are enjoyed by the community at large.

EDF generally supports the socialization of the costs of the grid upgrades (including but not limited to transformers and pole upgrades) necessary for broad EV mobilization because of the significant environmental benefits that can be achieved through their usage. However, EDF recommends that the ICC enter into a specific process to determine the correct cost-allocation formula to ensure that these costs are shared fairly across the various service territories and classes. Additionally, where individualized (customer side of the meter) upgrades are needed to perform charging equipment installation, EDF does not support socialized costs.

EDF also encourages the continued access to data for potential implementers to be an important factor in supporting the broader development of EV infrastructure in Illinois. For EV deployment to become a reality, a market for ancillary and charging services will need to develop to meet the changing consumer needs. Partnership between the local utilities and the station owners and operators is key to ensuring smooth market development.

EDF views the process currently underway, and this submission specifically, as the beginning of a necessary dialogue between the key stakeholders in the process. EDF advocates for a facilitated work-group process that brings together policy-makers, utilities, car manufacturers and EV service providers to develop a comprehensive regulatory roadmap that can both support market development in Illinois and serve as a guiding document for other states as they enter this process. EDF encourages the ICC to act quickly in convening this working group, given the speed with which the EV market is emerging.